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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,651	04/08/2004	Jose A. Capote	11855/17	8498
757	7590	02/09/2005		
BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, IL 60610			EXAMINER RINEHART, KENNETH	
			ART UNIT 3749	PAPER NUMBER
DATE MAILED: 02/09/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/820,651

Applicant(s)

CAPOTE ET AL.

Examiner

Kenneth B Rinehart

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-11, 18-25 and 28-30 is/are rejected.
- 7) ☒ Claim(s) 5-7, 12-17, 26 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/10/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the at least one door that can separate one of the plasma torches from the open space in the vessel, the AC plasma torches include a torch gas that has a flow rate, and wherein the flow rate of the torch gas can be adjusted to vary the flames of the AC plasma torches, a current is applied to the AC plasma torches, and wherein the current can be adjusted to vary the flames of the AC plasma torches, a tap cart, at least two taps are positioned in the vessel, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Boen et al (5606925). Boen et al shows (a) a vessel (fig. 1); and (b) at least two AC plasma torches mounted with the vessel, wherein the AC plasma torches each include a variable flame (5, fig. 1, col. 3, lines 15-18), a) providing an AC torch with a variable flame (5, fig. 1, col. 3, lines 15-18); (b) providing waste (11, fig. 1); (c) adjusting the flame in accordance with a type of waste to be treated (col. 4, lines 27-36); and (d) heating the waste with energy generated by the flame (fig. 1).

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Tylko (4361441). Tylko shows a vessel (fig. 1); and (b) at least two AC plasma torches mounted with the vessel, wherein the AC plasma torches each include a variable flame (1, fig. 1, col. 8, lines 51-56)

Claims 1 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Titus et al (5908564). Titus et al shows a vessel (302, fig. 1); and (b) at least two AC plasma torches mounted with the vessel, wherein the AC plasma torches each include a variable flame (fig. 1(c), col. 12, lines 21-22), (a) providing an AC torch with a variable flame (col. 12, lines 21-22); (b) providing waste (col. 1, line 20); (c) adjusting the flame in accordance with a type of waste to be

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treated (col. 6, lines 36-44); and (d) heating the waste with energy generated by the flame (fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2, 4, 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boen et al in view of Springer et al (5534659). Boen et al discloses (a) a vessel (fig. 1); and (b) at least two AC plasma torches mounted with the vessel, wherein the AC plasma torches each include a variable flame (5, fig. 1, col. 3, lines 15-18), the vessel contains an open space and (fig. 1), the vessel is generally a horizontally oriented structure (fig. 1), the AC plasma torches are vertically mounted on the vessel with the flames generated by the AC plasma torches extending down through the open space and contacting the ... (fig. 1), at least one tap positioned in the vessel through which treated waste may be drained (8, fig. 1). Boen et al discloses applicant's invention substantially as claimed with the exception of includes a bowl-shaped portion, bowl-shaped portion of the vessel, a feeding system connected to the vessel comprising a charging hopper and a feeding hopper, wherein the feeding hopper includes a airlock door on a side through which waste can be introduced into the feeding hopper, further comprising a purging system connected to the feeding system. Springer et al teaches bowl shaped portion, bowl-shaped portion of the vessel (30, fig. 2) for the purpose of replacing the portion when maintenance is required. It would have been obvious to one of ordinary skill in the art to modify Boen by including a bowl

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shaped portion, bowl-shaped portion of the vessel as taught by Springer for the purpose of replacing the portion when maintenance is required. Regarding claims 8 and 9 Springer teaches a feeding system connected to the vessel comprising a charging hopper and a feeding hopper (10, 12, fig. 2), wherein the feeding hopper includes a airlock door on a side through which waste can be introduced into the feeding hopper (14, fig. 1), further comprising a purging system connected to the feeding system (15, fig. 2) for the purpose of providing a feeding mechanism so that the apparatus can process more waste. It would have been obvious to one of ordinary skill in the art to modify Boen et al by including a feeding system connected to the vessel comprising a charging hopper and a feeding hopper, wherein the feeding hopper includes a airlock door on a side through which waste can be introduced into the feeding hopper, further comprising a purging system connected to the feeding system as taught by Springer et al for the purpose of providing a feeding mechanism so that the apparatus can process more waste and thus productivity is improved where more waste is processed in less time.

Claim 2-4, 6, 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tylko in view of Springer et al (5534659). Tylko discloses a vessel (fig. 1); and (b) at least two AC plasma torches mounted with the vessel, wherein the AC plasma torches each include a variable flame (1, fig. 1, col. 8, lines 51-56), the vessel contains an open space and (fig. 1), the vessel is generally a horizontally oriented structure (fig. 1), the AC plasma torches are vertically mounted on the vessel with the flames generated by the AC plasma torches extending down through the open space and contacting the ... (fig. 1), the AC plasma torches are mounted with the vessel such that they do not penetrate the open space contained in the vessel (fig. 1), a current is applied to the AC plasma torches, and wherein the current can be adjusted to vary the flames of the AC

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plasma torches (col. 8, lines 51-56). Tylko discloses applicant's invention substantially as claimed with the exception of includes a bowl-shaped portion, bowl-shaped portion of the vessel, a feeding system connected to the vessel comprising a charging hopper and a feeding hopper, wherein the feeding hopper includes a airlock door on a side through which waste can be introduced into the feeding hopper, further comprising a purging system connected to the feeding system, at least one tap positioned in the vessel through which treated waste may be drained.

Springer et al teaches bowl shaped portion, bowl-shaped portion of the vessel (30, fig. 2) for the purpose of replacing the portion when maintenance is required. It would have been obvious to one of ordinary skill in the art to modify Tylko by including a bowl shaped portion, bowl-shaped portion of the vessel as taught by Springer for the purpose of replacing the portion when maintenance is required. Regarding claims 8 and 9 Springer teaches a feeding system connected to the vessel comprising a charging hopper and a feeding hopper (10, 12, fig. 2), wherein the feeding hopper includes a airlock door on a side through which waste can be introduced into the feeding hopper (14, fig. 1), further comprising a purging system connected to the feeding system (15, fig. 2), at least one tap positioned in the vessel through which treated waste may be drained (46, fig. 2) for the purpose of providing a feeding mechanism and draining mechanism so that the apparatus can process more waste. It would have been obvious to one of ordinary skill in the art to modify Tylko by including a feeding system connected to the vessel comprising a charging hopper and a feeding hopper, wherein the feeding hopper includes a airlock door on a side through which waste can be introduced into the feeding hopper, further comprising a purging system connected to the feeding system, at least one tap positioned in the vessel through which treated waste may be drained as taught by Springer et al for the purpose of providing a feeding

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mechanism and draining so that the apparatus can process more waste and thus productivity is improved where more waste is processed in less time.

Claims 19-25, 28, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Titus et al (5908564) in view of Springer. Titus et al discloses (a) providing an AC torch with a variable flame (col. 12, lines 21-22); (b) providing waste (col. 1, line 20); (c) adjusting the flame in accordance with a type of waste to be treated (col. 6, lines 36-44); and (d) heating the waste with energy generated by the flame (fig. 1), (b) providing a vessel with at least two AC plasma torches mounted therein (fig. 1), (d) generating a flame with one of the AC plasma torches (fig. 1), ; and (e) heating the waste with the energy from the flame (fig. 1). Titus et al discloses applicant's invention substantially as claimed with the exception of the waste is comprised of solid waste and liquid waste, (a) melting or vitrifying the waste; (b) forming a pool of the melted or vitrified waste; and (c) quenching the melted or vitrified waste, (a) dissociating the waste into elemental components; (b) gasifying the waste; and (c) reforming the elemental components as carbon monoxide gas and hydrogen gas, the step of dissociating the waste destroys the hazardous constituency of at least part of the waste and is accomplished through pyrolysis of the waste, (a) providing oxygen; and (b) combining the oxygen with the elemental components to form carbon monoxide gas, (a) providing excess oxygen; and (b) combining the oxygen with the elemental components to form carbon dioxide gas, (a) cooling the carbon monoxide gas and hydrogen gas; (b) removing carbon particulate from the carbon monoxide gas and hydrogen gas; and (c) neutralizing any acid gases contained with the carbon monoxide gas and hydrogen gas, (a) providing waste, wherein the waste includes an inorganic portion and an organic portion; (c) introducing the waste into the vessel; (d) generating a flame with one of the

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AC plasma torches; and (e) heating the waste with the energy from the flame, (a) melting or vitrifying the inorganic portion of the waste; and (b) gasifying and dissociating the organic portion of the waste, the steps (a) and (b) are performed simultaneously. Springer teaches the waste is comprised of solid waste and liquid waste (col. 1, lines 54-57), (a) melting or vitrifying the waste (20, fig. 1); (b) forming a pool of the melted or vitrified waste (fig. 2); and (c) quenching the melted or vitrified waste (65, fig. 1), (a) dissociating the waste into elemental components (20, fig. 1); (b) gasifying the waste (20, fig. 1); and (c) reforming the elemental components as carbon monoxide gas and hydrogen gas (col. 3, lines 47-55), the step of dissociating the waste destroys the hazardous constituency of at least part of the waste and is accomplished through pyrolysis of the waste (col. 7, line 34), (a) providing oxygen; and (b) combining the oxygen with the elemental components to form carbon monoxide gas (45, fig. 2, col. 8, lines 5-11), (a) providing excess oxygen; and (b) combining the oxygen with the elemental components to form carbon dioxide gas (45, fig. 1, col. 8, lines 7-11), (a) cooling the carbon monoxide gas and hydrogen gas (65, fig. 1); (b) removing carbon particulate from the carbon monoxide gas and hydrogen gas (66, fig. 1); and (c) neutralizing any acid gases contained with the carbon monoxide gas and hydrogen gas (68, fig. 1), (a) providing waste, wherein the waste includes an inorganic portion and an organic portion (col. 3, lines 35-38); (c) introducing the waste into the vessel (fig. 1); (a) melting or vitrifying the inorganic portion of the waste (fig. 1); and (b) gasifying and dissociating the organic portion of the waste (fig. 1), the steps (a) and (b) are performed simultaneously (fig. 1) for the purpose of solving disposal problems and removing pollutants from the exhaust stream. It would have been obvious to one of ordinary skill in the art to modify Titus et al by including the waste is comprised of solid waste and liquid

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waste, (a) melting or vitrifying the waste; (b) forming a pool of the melted or vitrified waste; and (c) quenching the melted or vitrified waste, (a) dissociating the waste into elemental components; (b) gasifying the waste; and (c) reforming the elemental components as carbon monoxide gas and hydrogen gas, the step of dissociating the waste destroys the hazardous constituency of at least part of the waste and is accomplished through pyrolysis of the waste, (a) providing oxygen; and (b) combining the oxygen with the elemental components to form carbon monoxide gas, (a) providing excess oxygen; and (b) combining the oxygen with the elemental components to form carbon dioxide gas, (a) cooling the carbon monoxide gas and hydrogen gas; (b) removing carbon particulate from the carbon monoxide gas and hydrogen gas; and (c) neutralizing any acid gases contained with the carbon monoxide gas and hydrogen gas, (a) providing waste, wherein the waste includes an inorganic portion and an organic portion; (c) introducing the waste into the vessel; (d) generating a flame with one of the AC plasma torches; and (e) heating the waste with the energy from the flame, (a) melting or vitrifying the inorganic portion of the waste; and (b) gasifying and dissociating the organic portion of the waste, the steps (a) and (b) are performed simultaneously as taught by Springer for the purpose of solving disposal problems and removing pollutants from the exhaust stream in order to meet environmental regulations.

Allowable Subject Matter

Claims 5-7, 12-17, 26-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to melting apparatus in general: Taniguchi (4467732).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B Rinehart whose telephone number is 571-272-4881. The examiner can normally be reached on 7:20 -4:20.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus can be reached on 571-272-4881. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KBR


KENNETH RINEHART
PRIMARY EXAMINER